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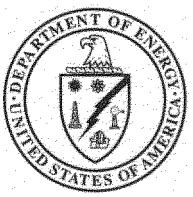
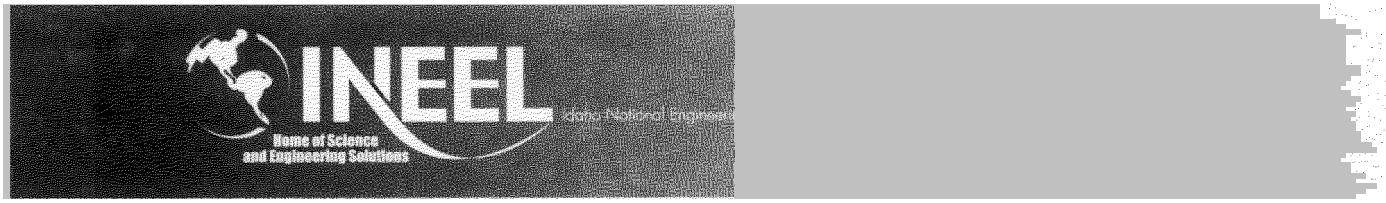
Revision 0
January 2004



U.S. Department of Energy
Idaho Operations Office

Operable Unit 3-13, Group 3, Other Surface Soils Remediation Sets 1-3 (Phase I) Waste Management Plan



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Revision 0
Project No. 23083

Operable Unit 3-13, Group 3, Other Surface Soils Remediation Sets 1-3 (Phase I) Waste Management Plan

January 2004

Prepared for the
U.S. Department of Energy
Idaho Operations Office

ABSTRACT

This Waste Management Plan describes waste management and waste minimization activities for Group 3, Other Surface Soils Remediation Sets 1-3 (Phase I) at the Idaho Nuclear Technology and Engineering Center located within the Idaho National Engineering and Environmental Laboratory. The waste management activities described in this plan support the selected response action presented in the *Final Record of Decision for Idaho Nuclear Technology and Engineering Center, Operable Unit 3-13*. This plan identifies the waste streams that will be generated during implementation of the remedial action and details plans for waste minimization, waste management strategies, and waste disposition.

CONTENTS

FIGURES

TABLE

ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFA	Central Facilities Area
CPP	Chemical Processing Plant
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
HDPE	high-density polyethylene
ICDF	INEEL CERCLA Disposal Facility
INEEL	Idaho National Engineering and Environmental Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
IW	industrial waste
IWTS	Integrated Waste Tracking System
LLW	low-level waste
MLLW	mixed low-level waste
OU	operable unit
PCB	polychlorinated biphenyl
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act
TSCA	Toxic Substance Control Act
TSDF	treatment, storage, or disposal facility
WAC	Waste Acceptance Criteria
WGS	Waste Generator Services
WMP	waste management plan
WTS	waste technical specialist

Operable Unit 3-13, Group 3, Other Surface Soils Remediation Sets 1-3 (Phase I) Waste Management Plan

1. INTRODUCTION

This Waste Management Plan (WMP) was prepared for the Idaho Nuclear Technology and Engineering Center (INTEC) Clean Close Project at the Idaho National Engineering and Environmental Laboratory (INEEL). This WMP provides guidance for waste management necessary to identify disposal criteria for waste materials associated with the Operable Unit (OU) 3-13, Group 3, Other Surface Soils Remediation Sets 1-3 (Phase I).

1.1 Purpose and Objectives

This WMP is intended to provide a management and planning tool for identifying and managing the waste streams generated from the OU 3-13, Group 3, Other Surface Soils Remediation Sets 1-3 (Phase I) remediation activities. The primary objective of this WMP is to properly identify the waste types that are anticipated to be generated during implementation of the Group 3 remedial actions and present a strategy for managing them compliantly. This plan addresses the waste characterization strategy; requirements for waste storage, labeling, packaging and transportation, and treatment, if required; and designated facilities for ultimate disposal of the waste. This plan also identifies required records and reports and discusses strategies for minimizing waste during remediation activities.

2. SITE BACKGROUND

The INEEL is a government facility managed by the U.S. Department of Energy (DOE) located 51.5 km (32 mi) west of Idaho Falls, Idaho. It occupies 2,305 km^2 (890 mi^2) of the northeastern portion of the Eastern Snake River Plain. The INTEC is located in the south-central portion of the INEEL as shown in Figure 2-1.

The INTEC, formerly the Idaho Chemical Processing Plant, began operating in 1952. The primary missions were reprocessing uranium for defense purposes and researching and storing spent nuclear fuel. Irradiated defense nuclear fuels were reprocessed to recover unused uranium. In 1992, the reprocessing mission was phased out. The current INTEC mission is receiving and temporarily storing spent nuclear fuel and radioactive waste for future disposition.

The OU 3-13, Group 3, Other Surface Soils Remediation Sets 1-3 are listed below and shown in Figure 2-2. These remediation sites are located within the INTEC security fence with the exception of site Chemical Processing Plant (CPP) -37A, the Gravel Pit located east of the INTEC security fence, and CPP-67, Percolation Ponds 1 and 2, located south of the INTEC security fence.

Remediation Set 1:

- CPP-97, Tank Farm soil stockpile
- CPP-92, Soil boxes west of CPP-1617
- CPP-99, Boxed soil
- CPP-98, Tank Farm shoring boxes.

Remediation Set 2:

- CPP-37B, Gravel Pit and debris landfill inside INTEC fence
- CPP-37C, Contamination discovered southeast of CPP-37B.

Remediation Set 3:

- CPP-03, Temporary storage area southeast of CPP-603
- CPP-37A, Gravel Pit outside INTEC fence
- CPP-67, Percolation Ponds 1 and 2
- CPP-34A/B, Soil storage areas (disposal trenches) in northeast corner of INTEC.

These sites are more fully described in the project Remedial Design/Remedial Action (RD/RA) Work Plan (DOE-ID 2004a).

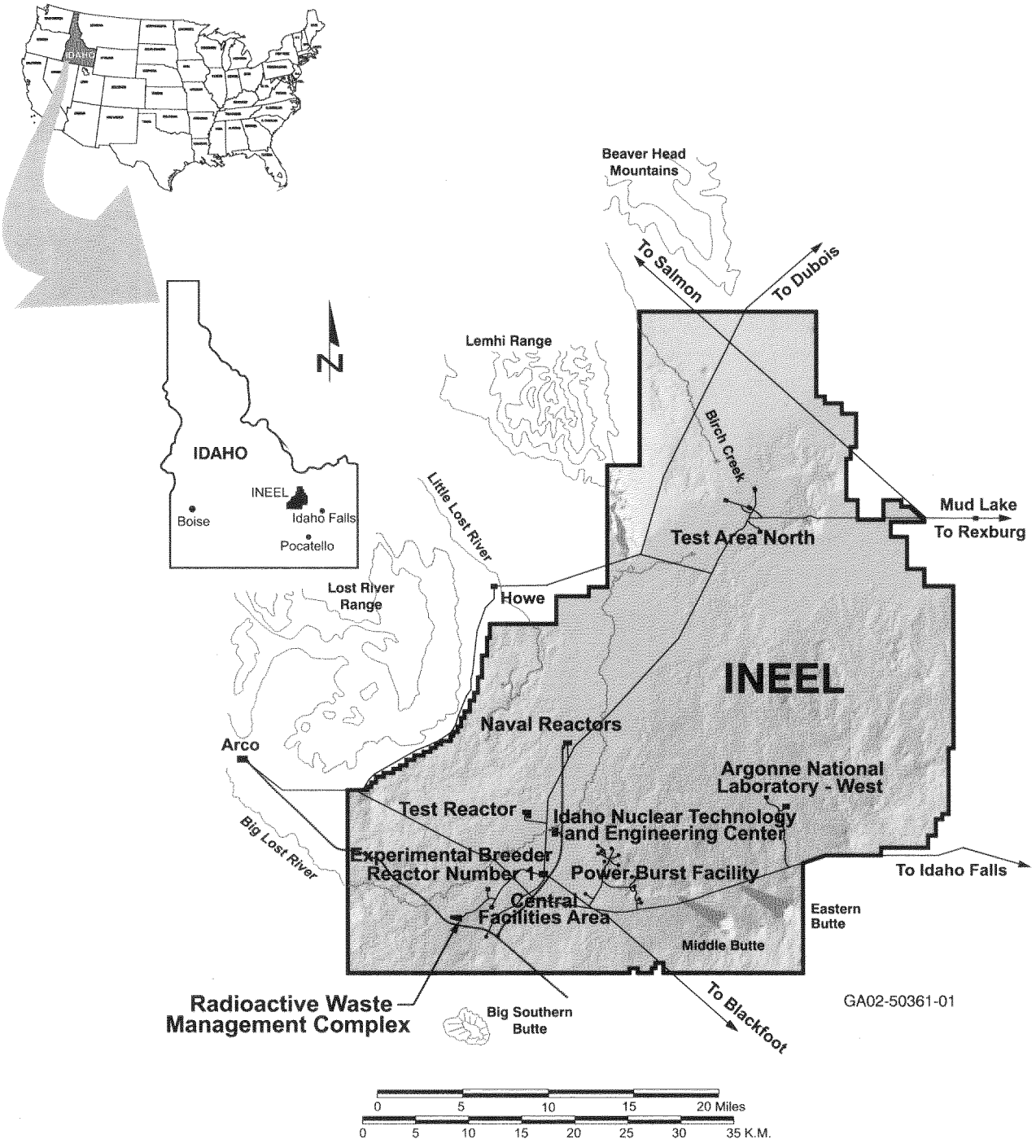

Figure 2-1. Location of the Idaho National Engineering and Environmental Laboratory.

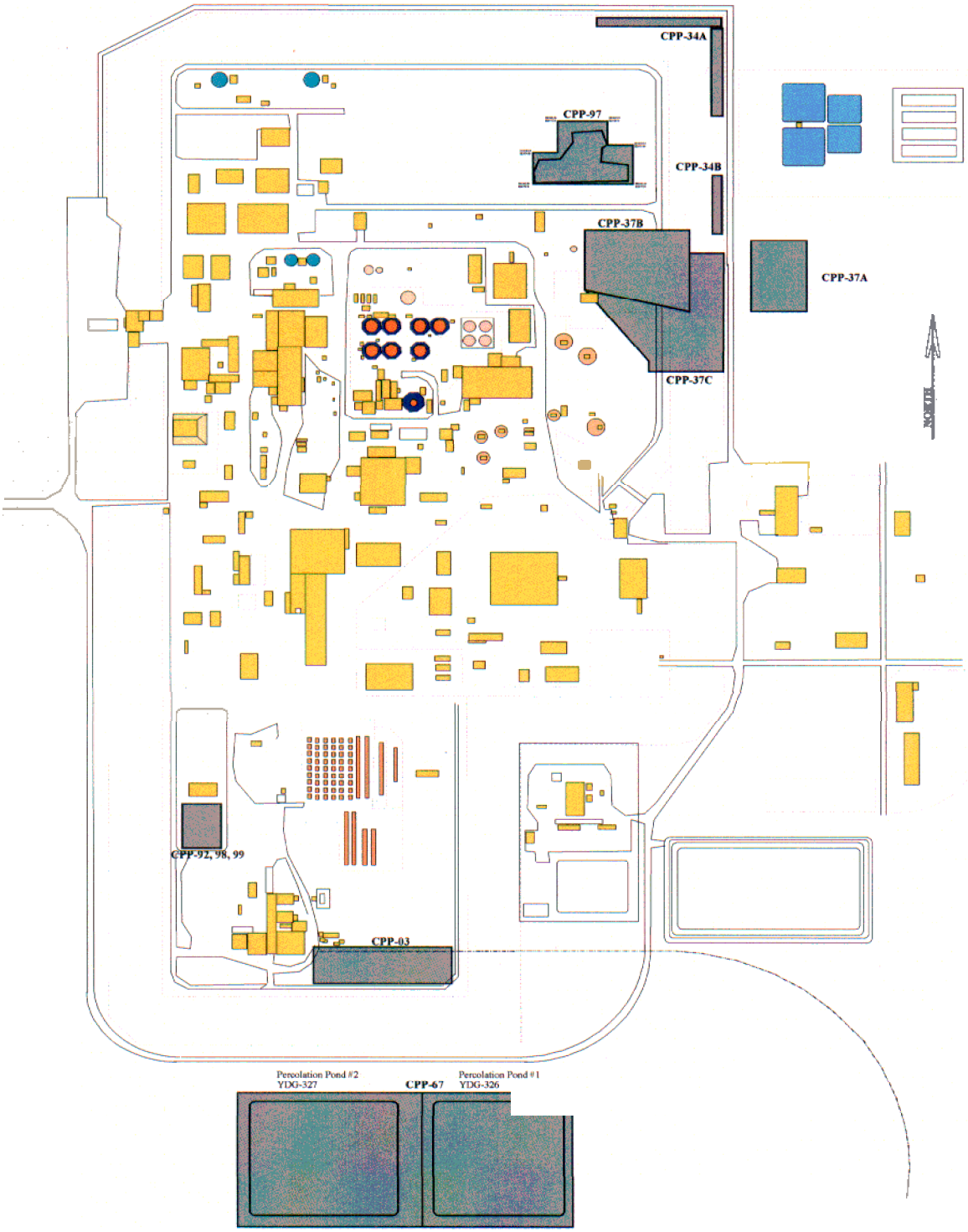

Figure 2-2. Location of OU 3-13, Group 3, Other Surface Soils, Remediation Sets 1-3 (Phase I).

3. WASTE IDENTIFICATION

Waste streams generated as a result of remediation activities will be identified and characterized as required by DOE orders and in accordance with appropriate requirements and regulations.

Table 3-1 identifies and describes the waste types that may be generated as a result of OU 3-13, Group 3, remediation activities, management strategies, and the proposed disposition of each waste type. Other waste types might be generated and, if so, will be appropriately designated based on a hazardous waste determination.

Table 3-1. Waste management during OU 3-13, Group 3, Other Surface Soils, Remediation Sets 1-3 (Phase I) remediation activities.

Waste Type	Description	Management Strategy	Disposition
Industrial waste (IW)	Solid waste generated by industrial processes, manufacturing, and support processes. Certain waste such as nontraining-related personal protective equipment (PPE), petroleum-contaminated material such as soil, sand, gravel, or other earthen material, etc., require a waste-stream-specific, documented waste determination per the *INEEL Waste Acceptance Criteria* (WAC) (DOE-ID 2003a). Activities that may generate IW include administrative activities, sampling, and cleanup.	Waste must be characterized, documented, and tracked, if necessary, as described in this Waste Management Plan (WMP). IW will be transported to the Central Facilities Area (CFA) landfill for disposal.[a] Recyclable and reusable items will be managed under this WMP and the INEEL WAC. Requirements for disposal (described in the INEEL WAC) must be met.	INEEL Landfill Complex (at CFA) or recycled/reused under the INEEL WAC and this WMP.
Low-level waste (LLW)	Radioactive waste that is not high-level radioactive waste, spent nuclear fuel, transuranic waste, by-product or naturally occurring radioactive material and does not contain any Resource Conservation and Recovery Act (RCRA) hazardous constituents. LLW may include (but is not limited to) solid sampling and monitoring materials, tarps, and other material from staging activities; equipment that cannot be decontaminated; and other radiologically contaminated materials such as petroleum-contaminated media (i.e., soil or other absorbent materials containing radiological- and petroleum-contaminated materials). Activities that may generate LLW include sampling and monitoring, remediation activities, and decontamination.	Waste must be characterized, documented, and tracked, if necessary, as described in this WMP. If necessary, solid waste streams will be staged and managed in accordance with this WMP and the INEEL CERCLA Disposal Facility (ICDF) Complex Operations WMP. (DOE-ID 2003b) If liquid wastes are generated during remediation, these wastes will be disposed of at the ICDF if they meet the ICDF Evaporation Pond (EP) WAC (DOE-ID-2003c). If they do not meet the ICDF EP WAC, an alternate disposal facility will be determined.	ICDF landfill (soil and debris) ICDF evaporation pond (liquid) In the event wastes do not meet the ICDF landfill WAC (DOE-ID 2003d), they will be containerized, treated, and/or stored at the ICDF as necessary or required until appropriate on-Site or off-Site disposal is arranged.

Table 3-1. (continued).

Waste Type	Description	Management Strategy	Disposition
Mixed low-level waste (MLLW)	Waste containing both radioactive and RCRA-hazardous components.	Waste must be characterized, documented, and tracked, if necessary, as described in this WMP.	ICDF landfill (soil and debris)
	MLLW streams may include (but are not limited to) materials from sampling activities, decontamination materials, and petroleum-contaminated materials from remediation activities, piping, debris, and soil.	If necessary, solid waste streams will be staged and managed in accordance with this WMP and the ICDF Complex Operations WMP (DOE-ID 2003b); otherwise, waste will be "actively managed."	ICDF evaporation pond (liquid)
		These wastes will be disposed of at the ICDF if they meet the ICDF WAC (DOE-ID 2003e). If they do not meet the ICDF WAC, an alternate disposal facility will be determined.	In the event wastes do not meet the ICDF landfill WAC (DOE-ID 2003d), the wastes will be containerized, treated, and/or stored at the ICDF, as necessary or required, until appropriate on-Site or off-Site treatment, storage, or disposal is arranged.
		If liquid wastes are generated during remediation, these wastes will be disposed of at the ICDF if they meet the ICDF EP WAC (DOE-ID 2003c). If they do not meet the ICDF EP WAC, an alternate disposal facility will be determined.	
Polychlorinated biphenyl (PCB) waste (including radioactively contaminated PCB waste)	Waste managed strictly under Toxic Substances Control Act (TSCA) regulations.	Waste must be characterized, documented, and tracked as described in this WMP.	TSCA-permitted treatment, storage, and disposal facility (TSDF) off-Site[b]
	TSCA-regulated streams may include (but are not limited to) materials from sampling and decontamination activities and remediation activities (e.g., PPE, debris, and soil).	If necessary, solid waste streams will be staged and managed in accordance with this WMP and the ICDF Complex Operations WMP (DOE-ID 2003b); otherwise, waste will be "actively managed."	In the event a waste stream does not meet the ICDF landfill WAC (DOE-ID 2003d), the waste will be containerized, treated, and/or stored at the ICDF, as necessary or required, until appropriate on-Site or off-Site treatment, storage, or disposal is arranged.
		If liquid TSCA wastes are generated during remediation, these wastes will be disposed of at the ICDF if they meet the ICDF WAC (DOE-ID 2003e). If they do not meet the ICDF WAC, an alternate disposal facility will be determined.	

a. Most IW will be sent to the landfill at the CFA for disposal (subject to meeting the INEEL WAC). Industrial waste that does not meet the INEEL WAC will be managed at the ICDF Complex under this WMP.

b. TSCA waste must be transferred to a TSCA-permitted TSDF off-Site from the INEEL.

4. GENERAL REQUIREMENTS

Waste types resulting from the OU 3-13, Group 3, remediation activities may include personal protective equipment (PPE), soil, concrete, metal piping, and other debris. These waste types will be managed in accordance with this WMP.

4.1 Waste Minimization and Segregation

Wherever possible, waste minimization strategies will be employed during implementation of the remedies. Waste minimization for this project will be accomplished through design and planning to ensure efficient operations that will not generate unnecessary waste. As part of the prejob briefing, emphasis will be placed on waste reduction philosophies and techniques, and personnel will be encouraged to continuously attempt to improve methods for minimizing waste generation. Practices to be instituted to support waste minimization include, but are not limited to, the following:

- Restricting material entering radiological buffer areas to those needed for work performance
- Substituting recyclable items for nonhazardous and easily-disposed-of items
- Reusing items when practical
- Segregating contaminated from uncontaminated waste
- Reusing soil that meets the OU 3-13 remedial action objectives, as specified in the OU 3-13 Record of Decision (ROD) (DOE-ID 1999).

4.2 Characterization Strategy

Waste generated during remediation of the OU 3-13, Group 3, Other Surface Soils, Remediation Sets 1-3 (Phase I) sites will be characterized using approved sampling and analytical information (both existing and new) or process knowledge. Initial waste characterization based solely on process knowledge must ensure that the chemical, physical, and radiological properties of the waste are adequately determined. The designation must be accomplished with sufficient accuracy to ensure that subsequent treatment, storage, or disposal of the waste is protective of human health and the environment. Additional waste characterization is also planned prior to starting remediation of several Group 3 sites, as described in Section 5 of the Remedial Design/Remedial Action (RD/RA) Work Plan (DOE-ID 2004a) and in the project Characterization Plan (DOE-ID 2004b). This information will be used to prepare a waste profile that will be reviewed and approved by the ICDF and/or other applicable disposal facility in accordance with respective waste acceptance criteria (WAC).

As outlined in Section 3, preliminary classifications have been made of anticipated waste types based on process knowledge and existing characterization data regarding the source(s) of the expected waste. Subsequent to generation, any or all of the waste may be reclassified. Prior to ultimate disposal, waste may be further characterized to ensure compliance with the ICDF WAC (DOE-ID 2003e) or other applicable disposal facility WAC. Sampling of the waste for waste profile completion purposes and/or new waste characterization purposes will be performed in accordance with the approach outlined in the project Field Sampling Plan (DOE-ID 2004c). Appropriate and required documentation of waste characterization will be completed in compliance with the applicable WAC.

Debris characterization may use an estimation method developed to determine the probable distribution of radionuclide and chemical contaminant concentrations on or within the debris (e.g., piping and concrete). This method will use the data obtained from sampling of tank farm soils (resulting in a "worst-case" scenario). The contaminant thickness will be determined by visually inspecting representative portions of the debris. Using this information, a mass balance can then be calculated using an assumed or calculated density of the debris and the linear feet of debris present. Upon completion of the mass balance calculations, a hazardous waste determination will be made.

4.3 INEEL Waste Management and Disposition

Waste generated at the INEEL as a result of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) remedial activities includes hazardous, mixed low-level waste (MLLW), low-level radioactive waste (LLW), and industrial waste (IW) (see Table 3-1). These various types of waste may contain contaminants, such as polychlorinated biphenyls (PCBs) or asbestos, that might be regulated by the Toxic Substance Control Act (TSCA) (40 CFR 763) and the National Emissions Standards for Hazardous Air Pollutants (40 CFR 61.92 and 40 CFR 61.93). This waste may be disposed of at the INEEL, if it meets the specific facility's WAC. Typically, most of the CERCLA-generated waste will be sent to the ICDF for disposal, although CERCLA-generated IW is generally disposed of at the INEEL Landfill Complex.

4.3.1 Waste Planned for Disposal at the ICDF

Most of the waste anticipated to be generated during implementation of the OU 3-13, Group 3, remediation activities is planned for disposal at the ICDF. This waste will be required to meet the ICDF Complex WAC (DOE-ID 2003e), the ICDF Landfill WAC (DOE-ID 2003d), and the ICDF Evaporation Pond WAC (DOE-ID 2003c).

4.3.2 Waste Transported to Non-INEEL Facilities

Some of the waste generated during the OU 3-13, Group 3, CERCLA remedial activities could be sent to a treatment, storage, or disposal facility (TSDF) located outside INEEL boundaries. CERCLA waste that is sent outside INEEL boundaries for TSD shall meet the requirements of U.S. Department of Transportation (DOT), the receiving facility's WAC, and the off-Site rule (40 CFR 300.440) requirements.

4.3.3 Waste Planned for Disposal at Non-CERCLA INEEL Facilities

Appropriateness of a waste disposal option is based on whether a particular waste could reasonably be expected to cause or contribute to an environmentally significant release of hazardous substances from a selected facility. Releases of hazardous substances to the air or groundwater in quantities that could reasonably be expected to pose a significant threat to human health and the environment are considered environmentally significant. Any waste described in this plan that would be reasonably expected to exceed this threshold criterion will be evaluated separately to determine the suitability of the waste for disposal. This particular waste will not be shipped for disposal unless special provisions are made and documented to mitigate the potential for release. The primary list of hazardous substances under CERCLA is contained in 40 CFR 302.4, "Designation of Hazardous Substances." As the remedial process proceeds and additional information becomes available, reviews that are more detailed will be conducted to ensure that waste planned for specific disposal options meets the detailed WAC for each specific facility.

4.3.4 Managing Industrial Waste for Disposal at the INEEL Landfill Complex

Industrial waste is solid waste that is neither radioactive nor hazardous. At the INEEL, industrial waste streams are typically disposed of at the INEEL Landfill Complex. Many types of CERCLA IW are generated in the area of contamination as a result of material used in a remediation project that the generator believes has not been contaminated with either radioactive or hazardous materials. This absence of contamination is validated by radiation surveys, radiological smears and analysis, or visual inspections (visual staining and/or discoloration of soil and/or debris).

A general hazardous waste determination is prepared for routinely generated IW to document that the waste is neither radioactive nor hazardous. Industrial waste streams that have a higher probability of containing constituents restricted from disposal are considered nonroutine and will undergo a waste-stream-specific hazardous waste determination. This determination is accomplished by sampling; performing radiation and contamination surveys; using process knowledge of the waste-generating process (e.g., determining if the waste was mixed with a listed waste or derived from the treatment, storage, or disposal of a listed waste); and evaluating the composition of the IW. The Waste Generator Services (WGS) evaluates CERCLA IW to determine if the waste meets the IW acceptance criteria. Management of IW is performed in accordance with company procedures.

Industrial waste is generally collected in IW collection dumpsters posted with signs describing acceptable and prohibited items. However, to ensure that disposal of IW is protective to human health and the environment, the INEEL Landfill Complex employs the following additional methods:

- Characterization of IW by WGS to ensure that the requirements of the WAC are met before to shipment to the facility
- Prohibition of the receipt of radioactive and hazardous waste
- Prohibition of the receipt of free liquids at the landfill
- Periodic inspection of received waste to validate that it meets the acceptance and waste determination criteria
- Periodic location and sampling of groundwater monitoring wells near the INEEL Landfill Complex.

Environmental monitoring data have not indicated an environmentally significant release of hazardous substances to the air or groundwater from current IW disposal operations at the INEEL Landfill Complex. The current disposal area at the INEEL Landfill Complex is a solid waste management unit. As such, if future environmentally significant releases to the air or groundwater are identified, those releases may be subject to response action, as stipulated by Section V of the Federal Facility Agreement and Consent Order (DOE-ID 1991).

4.3.5 Waste Packaging and Transportation

Before CERCLA waste is transported to a disposal facility, WGS and Packaging and Transportation Department personnel will be contacted to ensure the waste is properly handled, packaged, labeled, and transported in accordance with the INEEL Packaging and Transportation Program and the safety basis requirements of 10 CFR 830, Subpart B (Nuclear Safety Management) and the DOT Hazardous Materials Regulations (HMR) required by DOE Order 460.1B for the on-Site transport of LLW and MLLW soils from INTEC to the ICDF.

Packaging of waste designated for shipment to ICDF will be in compliance with the OU 3-13 Record of Decision (ROD) applicable or relevant and appropriate requirements (ARARs) and the ICDF WAC. Appropriate personnel will be consulted prior to generation of any waste to identify proper containment to be used for each waste stream. The CERCLA waste generating sites must ensure waste materials are packaged in containers that are in good condition, materials are compatible with the waste stored in them, and void spaces in containers are reduced as much as possible. The ICDF Complex management should be consulted prior to the use of containers other than those specified in the ICDF WAC.

Waste containers in staging areas will be labeled and marked in accordance with the applicable receiving facility's requirements. Specifically, waste destined for the ICDF shall be labeled in accordance with the labeling requirements identified in that facility's WMP. Industrial waste destined for the INEEL Landfill Complex shall meet the INEEL WAC (DOE-ID 2003a) and be labeled in accordance with applicable requirements. The CERCLA waste destined for an off-Site facility shall, at a minimum, have an Integrated Waste Tracking System (IWTS) label, radiation label (if applicable), and a CERCLA waste label to ensure that personnel know the contents within the container. The CERCLA waste label shall identify the project that generated the waste (e.g., OU 3-13, Group 3); the date the waste container was filled; the waste description (solid, soil, debris, PPE, etc.); and the waste hazards (e.g., radioactive, PCBs, Resource Conservation and Recovery Act [RCRA] waste codes, etc.). Prior to off-Site transport, additional labeling may be required, including DOT-required labeling.

Any information not known when waste containers are initially labeled will be added when the information is known. As applicable, WGS personnel will provide IWTS bar codes for containers. A new bar code will be affixed to each container when waste is first placed in the container. Waste labels must be visible, legibly printed or stenciled, and placed on the container in such a manner that a full set of labels and markings is visible during an inspection.

Sampling and transportation will occur in compliance with the applicable WAC, DOT requirements, and RCRA regulations. Contact with the disposal facility must be made in advance to allow both the facility and the shipper the time required to make any preliminary arrangements.

4.3.6 Managing Waste Information

Information pertaining to waste characteristics, waste generation and storage locations, disposition plans, and waste shipments for CERCLA MLLW, CERCLA LLW, and nonroutine CERCLA IW generated at the INEEL is maintained in an electronic database called the IWTS. Material profiles are developed in IWTS to store characterization information that is specific to a particular waste stream. As the waste is generated, information pertaining to individual containers of waste is reported in individual IWTS container profiles. The information in the IWTS material profiles and container profiles is certified by a WGS waste technical specialist (WTS), who certifies that a hazardous waste determination has been performed and that the information is complete and accurate based on the analytical data or process knowledge used for characterization. The WTS also certifies that the information for the container falls within the bounds of the parent material profile. A different WGS WTS follows with an independent review of the information for completeness and accuracy. Finally, the information in the material and container profiles is approved by a WGS WTS who authorizes WGS to dispose of the waste in accordance with the disposition path defined in the IWTS material profile. The WGS WTS also verifies that the waste meets the acceptance criteria of the facility or facilities where the waste will be disposed. Normally, three different WTSs perform certification, review, and approval of the profiles. However, the same WTS may certify and approve; the same WTS may not review and approve the profiles.

Waste technical specialists use the information in the IWTS material and container profiles to ensure that CERCLA waste meets the acceptance criteria of the receiving facility. The IWTS also tracks shipments of waste to various areas or facilities using specific IWTS shipping tasks. Receiving locations, including those located outside the boundaries of the INEEL, must approve waste shipments before they are shipped. This approval is not documented in the IWTS database but is maintained in a hard copy file with the waste characterization information.

It should be noted that not all CERCLA IW is tracked in the IWTS database. An example of IW that is not tracked in the IWTS is routine office waste. This waste is placed into IW receptacles that are placarded with information pertaining to what is permissible to be placed in the receptacles. Some IW is tracked in the IWTS database to ensure that the INEEL Landfill Complex is aware that the waste is being shipped and that it meets the facility's acceptance criteria. An example of IW that would be tracked in the IWTS is color-coded material such as yellow shoe covers. Since yellow shoe covers are typically used for protection against radioactive contamination, a special profile has been prepared for color-coded personal protective equipment that has been surveyed and not found to be contaminated with radioactivity or that has been used for training purposes. Another example would be containers that have had all contents removed, and the empty containers are not radiologically contaminated. Container profiles are typically not prepared for IW because the waste is shipped to the facility in reusable receptacles, in bulk shipments, or is noncontainerized.

There may be MLLW and possibly TSCA PCB waste generated at physical interfaces between Voluntary Consent Order and CERCLA-managed programs. The MLLW and/or TSCA PCB waste generated to support CERCLA remediation activities will be managed as CERCLA remediation waste. The MLLW and/or TSCA waste generated to support Voluntary Consent Order activities will be managed in accordance with applicable RCRA and/or TSCA regulations.

4.3.7 Staging, Inspection, and Recordkeeping

The use of staging piles at the excavation sites is not planned. Rather, the solid, nonflowing remediation waste types are planned to be actively managed within the work zone. Upon the containers being filled, the waste will be transferred to the ICDF within 5 working days. If this timeframe cannot be met and waste staging at the remediation site is necessary, a temporary unit will be established in proximity to the remediation site and managed as described below. Waste transferred to the ICDF for management will be managed in accordance with that facility's work plan. Waste staged in roll-off containers will be covered with material sufficient to withstand site conditions (e.g., sun, wind, cold, heat, and movement to expose/cover the waste).

Remediation waste staging piles may be used to manage waste soil piles or containers of CERCLA mixed waste (Figure 4-1). Staging piles may be used for a period of up to 24 months unless an extension is provided by the Environmental Protection Agency, Idaho Department of Environmental Quality, and DOE. If waste is staged at the remediation site prior to treatment and disposal, it will be staged in proximity to the remediation site. The staging and inspection of waste generated from this activity will be performed by the contractor in accordance with this WMP. These records are maintained on an electronic document management system in accordance with company, CERCLA, and National Archive and Records Administration guidelines. The following list outlines the requirements applicable to staging piles and their use:

- If staging piles will be used for staging of solid, nonflowing remediation wastes, the wastes will be placed on impervious liners.

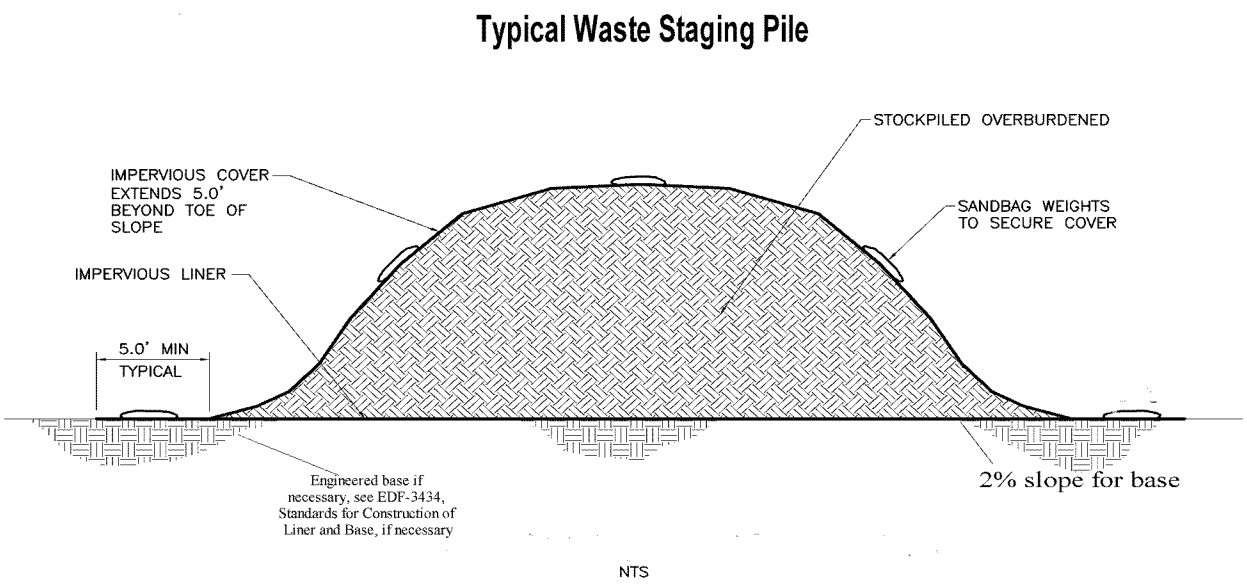

Figure 4-1. Cross section of typical waste staging pile.

- Construction of the base will ensure there is at least a 2% slope away from the soil waste pile to ensure proper drainage.
- The bottom liner material for the soil will be of sufficient strength/design to withstand the planned staging and subsequent removal of soils.
- The bottom liner will extend at least 5 ft beyond every edge of the waste soil pile.
- The use of an impervious man-made material will be implemented to cover the soil piles at all times when the soil is not being actively managed (i.e., placing, sampling, or removing waste).
- The cover will extend beyond the bottom liner and will be secured so that the staging pile soils are not exposed to the wind, precipitation, or elements.
- The cover will be constructed of impervious material sufficient to withstand site conditions (e.g., sun, wind, cold, heat, and movement to expose/cover the working face).
- Waste will not be added or removed during inclement weather, such as periods of precipitation and/or high winds. Incompatible waste types will not be stored in close proximity to a staging pile.
- Soils in the waste staging piles will be managed in a manner that will eliminate any potential run-on/run-off from entering the staging pile, or run-off from contacting the soils, thus eliminating the need to contain run-off.
- Waste staging piles will be appropriately barricaded and signed.
- If containers will be used for staging of solid, nonflowing remediation waste, they will be managed in rows with adequate aisle spacing maintained between rows to allow inspection and maintenance.

  Waste staging piles and containers will be inspected weekly.

The liner system could be a geosynthetic, asphalt, or concrete slab (minimum 4 in. thick). Geosynthetics could be 30-, 60-, or 100-mil-thick, high-density polyethylene (HDPE) with or without a geosynthetic cushion. Compatibility between the liner material and expected waste will be a criterion in liner selection. Covers could be a geosynthetic material (e.g., HDPE, very low-density polyethylene, polypropylene, or hypalon) or a 15-mil, scrim-reinforced HDPE. Compatibility between the cover material and expected waste will be a criterion in cover selection. Another criterion will be the ability to withstand sustained winds of 35-50 mph with appropriate anchorage.

Containers, if used for waste staging, will be selected to ensure compatibility with the waste being managed. Waste that may be managed in containers include soils and debris such as equipment and piping. The containers will be managed to enable inspection and ensure that there are no releases associated with their management.

4.3.8 Managing Waste in the Temporary Storage Units

The use of temporary storage units for remediation waste is not planned at the excavation sites. Remediation waste will be "actively managed" (filled) and, when filled, transferred to ICDF within 5 working days. If this timeframe cannot be met and waste storage is required, a temporary unit will be established in proximity to the remediation site.

5. REFERENCES

10 CFR 830, Subpart B, 2002, "Safety Basis Requirements," *Code of Federal Regulations*, Office of the Federal Register, February 2002.

40 CFR 61.92, 2003, "Standard," *Code of Federal Regulations*, Office of the Federal Register, September 2003.

40 CFR 61.93, 2003, "Emission monitoring and test procedures," *Code of Federal Regulations*, Office of the Federal Register, September 2003.

40 CFR 300.440, 2003, "Procedures for Planning and Implementing Off-Site Response Actions," *Code of Federal Regulations*, Office of the Federal Register, November 2003.

40 CFR 302.4, 2002, "Designation of Hazardous Substances," *Code of Federal Regulations*, Office of the Federal Register, September 2002.

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